

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1.-8. canceled.

9. (currently amended): A computer-generated hologram comprising:

a plurality of cells,

the hologram having information recorded therein, said information operable to recreate a stereoscopic image of an object,

wherein at least one of said plurality of cells P_j having information related to a luminance $TWL_{ci}(\theta_{XY}, \theta_{YZ})$ of a virtual point light source Q_i from a plurality of virtual point light sources, the luminance corresponding to a point S on the object,

the point S being on a straight line between said one of the plurality of cells P_i and the virtual point light source Q_i ,

Q_i being at a position away from the hologram plane and independent of S.

10. (previously presented): The computer-generated hologram according to claim 9, wherein a subset of the plurality of virtual point light sources together form a two-dimensional straight line light source.

11. (currently amended): A computer-generated hologram, the hologram separating a viewing side and a side opposite to the viewing side, the hologram comprising:

a plurality of cells,

the hologram having information recorded therein, said information operable to recreate a stereoscopic image of an object,

the hologram being operable to receive reconstruction illumination light such that diffraction light is reconstructed,

the diffraction light diverging from a plurality of virtual point light sources on the side of the hologram that is opposite to the viewing side;

a luminance $TWL_{ci}(\theta_{XY}, \theta_{YZ})$ of the diffraction light from ~~the virtual points~~ each virtual point being equal to a luminance of light from a corresponding point S on the object said luminance being measured in the hologram plane,

the plurality of virtual point light sources being at a position away from the hologram plane and independently from the object.

12. (previously presented): The computer-generated hologram according to claim 11, wherein a subset of the plurality of virtual point light sources together form a two-dimensional straight line light source.

13. (currently amended): A computer-generated hologram, the hologram separating a viewing side and a side opposite to the viewing side, the hologram comprising:

a plurality of cells,
the hologram having information recorded therein, said information operable to recreate a stereoscopic image of an object,
the hologram being operable to receive reconstruction illumination light such that diffraction light is reconstructed,
the diffraction light converging on a plurality of virtual condensing points on the viewing side of the hologram;
a luminance $TWL_{ci}(\theta_{XY}, \theta_{YZ})$ from each virtual point of the diffraction light being equal to a luminance of light from a corresponding point S on the object, the luminance being measured in the plane of the hologram
the virtual condensing points being at a position away from the hologram plane and independently from the object.

14. (previously presented): The computer-generated hologram according to claim 13, wherein a subset of the plurality of condensing light points together form a two-dimensional straight line condensing light line.

15. (currently amended): A computer-generated hologram, the hologram separating a viewing side and a side opposite to the viewing side, the hologram comprising:

a plurality of cells,

the hologram having information recorded therein, said information operable to recreate a stereoscopic image of an object,

the hologram being operable to receive reconstruction illumination light such that diffraction light is reconstructed,

the diffraction light diverging from a plurality of virtual point light sources on the viewing side of the hologram;

a luminance $TWL_{ci}(\theta_{XY}, \theta_{YZ})$ of the diffraction light from each of the virtual points being equal to a luminance of light from a corresponding point S on the object, the luminance being measured in the plane of the hologram.

16 (currently amended): The computer-generated hologram according to claim ~~13~~ 15, wherein a subset of the plurality of condensing light points together form a two-dimensional straight line condensing light line.

17. (currently amended): A method of generating a hologram capable of recreating a stereoscopic image of an object, the hologram separating a viewing side and a side opposite to the viewing side, the hologram the method comprising:

creating a plurality of cells on the hologram, one of said plurality of cells being P_j ;

designating a plurality of virtual point light sources such that one of said plurality of virtual point light sources Q_i corresponds to a point S on the object, the point S being on a straight line between Q_i and P_j ;

generating a luminance $TWL_{ci}(\theta_{XY}, \theta_{YZ})$ of Q_i such that the luminance corresponds to a luminance of S ; and

recording an information in the cell P_j corresponding to the luminance $TWL_{ci}(\theta_{XY}, \theta_{YZ})$

the plurality of virtual point light sources being at a position away from the hologram plane and independently from the object.

18. (previously presented): The method of claim 17, wherein a subset of the plurality of virtual point light sources together form a two-dimensional straight line light source.

19. (currently amended): A method of generating a hologram capable of recreating a stereoscopic image of an object, the hologram separating a viewing side and a side opposite to the viewing side, the method comprising:

designating a plurality of virtual point light sources on a side of the hologram opposite to a viewing side;

producing diffraction light diverging from the plurality of virtual point light sources, the luminance $TWL_{ci}(\theta_{XY}, \theta_{YZ})$ of the diffraction light from each of the virtual points being equal to a luminance of light from a corresponding point S on the object, the luminance being measured in the plane of the hologram; and

recording information on the hologram to recreate a stereoscopic image of the object,

the plurality of virtual point light sources being at a position away from the hologram plane and independently from the object.

20. (previously presented): The method of claim 19, wherein a subset of the plurality of virtual point light sources together form a two-dimensional straight line light source.

21. (currently amended): A method of generating a hologram capable of recreating a stereoscopic image of an object, the hologram having a viewing side and a side opposite to the viewing side, the method comprising:

designating a plurality of condensing points of light on a viewing side of the hologram;
producing diffraction light converging on the plurality of condensing points, the luminance $TWL_{ci}(\theta_{XY}, \theta_{YZ})$ of the diffraction light from each of the a plurality virtual points being equal to a luminance of light from a corresponding point S on the object, the luminance being measured on the plane of the hologram; and

recording information on the hologram to recreate a stereoscopic image of the object the virtual condensing points being at a position away from the hologram plane and independently from the object.

22. (currently amended): The method of claim ~~20~~ 21, wherein a subset of the plurality of virtual point light sources together form a two-dimensional straight line light source.